STATEMENT OF ROBERT LEGRANDE,
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BEFORE THE
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE
ON SPECTRUM FOR PUBLIC SAFTEY AND THE 9/11 COMMISSION

REPORT

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Introduction

Good afternoon, Mr. Chairman and members of the Committee. My name is Robert LeGrande. I am a Deputy Chief Technology Officer in the Office of the Chief Technology Officer (OCTO), the central information technology and telecommunications agency of the District of Columbia government. I am responsible for wireless communications infrastructure for the District government, and a representative of the national Spectrum Coalition for Public Safety.

As the leader of the District of Columbia's wireless public safety voice and data communications programs, I have partnered with officials and field personnel of the District's Metropolitan Police and Fire & EMS Departments to upgrade our public safety voice network and install public safety broadband wireless networks. During this process, I gained deep appreciation of the demands our first responders face every day and the urgency of their communications needs. Today I will describe the efforts of the District of Columbia to meet those needs in the city and the region. I will also discuss the efforts of the national Spectrum Coalition for Public Safety to meet the communications needs of first responders nationwide by securing an additional 10 MHz of 700 MHz spectrum so that public safety agencies throughout the nation can deploy broadband wireless networks for homeland defense.

The District's Wireless Program for Public Safety and Homeland Defense

As the nation's capital, the District is a prime target for terrorism and the focal point for regional response to potential terrorism and other emergencies. Recognizing this critical role, in April 2002 we launched a program to provide local, regional, and federal first responders the best and most complete suite of wireless communications tools possible, both voice and broadband data.

This program anticipated the communications needs identified by the 9/11 Commission. The Commission's report vividly attests to the problems New York firefighters in the World Trade Center faced because they lacked adequate communications tools:

> FDNY North Tower Operations command and control decisions were affected by the lack of knowledge of what was happening 30, 60, 90, and 100 floors above. According to one of the chiefs in the lobby, 'One of the most critical things in a major operation like this is to have information. We didn't have a lot of information coming in. **We didn't receive any reports of what was seen from the [NYPD] helicopters. It was impossible to know how much damage was done on the upper floors, whether the stairwells were intact or not.' According to another chief present, 'People watching on TV certainly had more knowledge of what was happening a hundred floors above us than we did in the lobby ....** [W]ithout critical information coming in .... it's very difficult to make informed, critical decisions[.] (Emphasis added.)

Kean, Hamilton, et al., *The 9/11 Commission Report* (hereinafter, "9/11 Commission Report") (July 22, 2004) at 298. The 9/11 Commission Report also finds that similar communications obstacles occurred at three different sites and therefore concludes that

> compatible and adequate communications among public safety organizations at the local, state, and federal levels remains an important problem..

Id. at 397. To assure that the tragic history of the North Tower firefighters does not repeat itself, the Commission's report recommends that

> [h]igh-risk urban areas such as New York City and Washington, DC should establish signal corps units to ensure communications connectivity between and among civilian authorities, local first responders, and the National Guard. Federal funding of such units should be given high priority by Congress.

Id.

Mr. Chairman, the District's wireless group is the "signal corps unit" the Commission recommends. Because we started our wireless communications program 2 ½ years ago, our work in the voice area is largely complete, and our broadband data communications efforts are well underway. The diagram provided as Attachment I depicts our accomplishments in wireless voice and our vision for wireless broadband.

As shown in the diagram, our recently upgraded 10-site wireless voice network provides comprehensive in-building coverage, augmented by 63 vehicular repeater systems to provide the highest possible level of voice communications coverage anywhere in the city. The network has created interoperability among the District's police and fire personnel, the Washington

Metropolitan Area Transit authority (WMATA) police, and our regional and federal partners. In addition, using distributed antenna techniques, we've attained for the first time virtually 100% coverage throughout the regional underground subway system within the District. Today, the District has one of the best public safety wireless voice systems in the nation. Our network provides comprehensive coverage, maximum clarity, 27 channels, regional interoperability, encryption, and other digital features. Local, regional, and federal first responders can communicate with each other, clearly, securely, immediately, anytime, anywhere. We're working to expand interoperability throughout the National Capital Region and with other federal partners such as the Department of Defense.

But are our regional first responders fully equipped to meet the next terrorist attack or other major emergency? **No:** even the state-of-the-art voice system we now have is not enough. The threats to our country and region are real and imminent. Broadband tools for citywide remote surveillance, helicopter video transmission, chemical and biological weapon detection, bomb squad support, and other uses are critical to preventing attacks and responding to attacks swiftly and effectively. In planning to provide these tools, we carefully evaluated the use of commercially available wireless networks, wideband wireless networks, and networks deployed at the 4.9 GHz spectrum. None met our requirements for individual user data rate, aggregate data rate, and wide-area coverage. (*See* Attachment II, Public Safety Broadband Data Requirements and Spectrum Overview, for an analysis of public safety wireless broadband data requirements and the available spectrum alternatives.) A detailed analysis is provided in Appendix I, Public Safety Broadband Wireless Data Requirements and Solutions.

Moreover, individuals and organizations who wish to do us harm already have citywide broadband wireless capabilities in the District, North Carolina, and San Diego. They can sign up

anonymously for Verizon or Nextel services in these areas and conduct real-time broadband intelligence gathering, video surveillance and, worst, attack coordination with far better coordination capabilities than those deployed by the terrorist cell in Madrid, Spain. Our first responders need better tools than the terrorists already have.

With the coordination and video surveillance capabilities of broadband and a fully interoperable voice system like the District's new network, the North Tower firefighters would not have suffered the tragic communications obstacles noted by the 9/11 Commission. Firefighters in the lobby would have been in touch with those many floors above, and all would have known what the helicopters were seeing at the same time. Precious minutes would not have been lost to uncertainty and confusion. Lives -- perhaps hundreds of lives -- could have been saved. Broadband wireless capabilities are vital to preparing for the communications challenges of another attack.

In addition, as the Madrid case makes starkly clear, we need tools to help prevent and curtail attacks on our regional mass transit systems. Wireless broadband can quickly support remote sensors that detect biological and chemical weapons at deployment, in time to shut down and evacuate a rail system before significant casualties occur. With such capabilities, we can blunt an attack or, better yet, deter one because terrorists will know in advance that the payoff is minimal. Imagine the difference between no attack, or a rapidly contained attack, and what happened in Madrid. I think you'll agree that broadband wireless tools are essential for public safety.

Other broadband wireless tools can help manage those attacks or emergencies that we can't prevent. For example:

- Real-time street monitoring and video pre-assessment capabilities will help first responders and emergency management officials pursue suspects and manage and speed mass evacuations.
- Helicopter video transmission to First Responders on the ground and in remote out door locations will provide valuable on scene information from the air.
- On-line medical consultations and pre-admissions assessments during ambulance trips will speed medical care and relieve pressure on hospitals and clinics in the event of mass casualties.

To meet the urgent need for homeland defense tools like these, the District's wireless program includes a two-pronged initiative aimed at delivering next-generation broadband wireless solutions to the nation's capital and, potentially, the nation.

The first component of our initiative is launching the nation's first citywide broadband wireless public safety network. Under an 18-month experimental license approved by the Federal Communications Commission (FCC), we're deploying, on a pilot basis, a network of 10 sites distributed across the District of Columbia. Our design uses Flarion Technologies' FLASH OFDM network, and Motorola's newly developed Greenhouse video dispatch application, which enables high-quality, multi-directional, streaming video content requiring a minimum of data speed.

Thanks to continuing cooperation from the FCC and the Department of Homeland Security, and excellent support from our corporate partners Flarion Technologies, Televate, Motorola, Intergraph, IBM, Nextel, and SAIC, the full 10-site pilot network is now complete.

Attachment III (District of Columbia Wireless Broadband Pilot Network Two-Way Video conference Demonstration) shows a few members of our team conducting a videoconference between the Capitol and our MPD headquarters. We will perform an hour-long demonstration of the system on Capitol Hill on September 23. All Members of Congress will shortly receive invitations to attend. I urge all of you to take this opportunity for a real-time view of broadband public safety solutions.

We started our project with interoperability in mind, so our next step, after fully testing the citywide network, will be to expand the network throughout the National Capital Region. We will need federal financial support to take this step, and we hope that, consistent with the 9/11 Commission's recommendations, we'll receive that support. We've already received outstanding operational support from the U.S. Park Police and Fairfax and Montgomery Counties. With federal assistance and the continued cooperation of our regional partners, we'll soon have a regionally interoperable wireless broadband network that will revolutionize this region's first responder communications capabilities.

Perhaps most importantly, our regional network will provide a fully designed and tested solution that jurisdictions around the nation can replicate to equip their own first responders with the full range of wireless communications capabilities for public safety and homeland defense. However, the ability of the District to maintain our network, and the ability of other jurisdictions to replicate it, require that the FCC and Congress supply a missing ingredient: spectrum. Wireless broadband solutions are bandwidth-intensive, and public safety agencies around the nation simply don't have enough dedicated spectrum to support the wireless communications tools they need. And this brings me to the second prong of our wireless broadband initiative.

The Spectrum Coalition: Seeking Dedicated Spectrum for Public Safety

One year ago the District of Columbia founded the **Spectrum Coalition for Public Safety,** a national coalition of 30 states, counties, cities, regions, and public safety organizations committed to common objectives. As discussed in the Spectrum Coalition fact sheet, Attachment IV, a key goal of the Coalition is to pursue legislation that would require the FCC to reserve 10 MHz of radio spectrum in the 700 MHz band for wide-area public safety broadband wireless uses. (The Coalition's proposed legislation is provided as Attachment V.) In fact, this legislative goal aligns with another recommendation of the 9/11 Commission, which stated that Congress should support legislation providing for the expedited and increased assignment of radio spectrum for public safety purposes. (See 9/11 Commission Report at 397.)

However, while assigning spectrum is a valuable step, without clearing spectrum, it is of **no** use. Existing television broadcasts in the 700 MHz band and public safety transmissions will interfere with one another when using the same or nearby frequencies. Therefore, the Spectrum Coalition for Public Safety asks that all Public Safety spectrum in the 700 MHz band be cleared by January 1, 2007. The needs for this spectrum exist today and will increase over time. The longer access to the spectrum is delayed, the longer our first responders and those they protect will live with increased risks.

Mr. Chairman, on behalf of the Spectrum Coalition, I urge you to address the Commission's recommendation by enacting the Coalition's proposed bill and by encouraging prompt spectrum clearing. Your action will take a huge step toward assuring that our nation's first responders, in New York, here in the District, and across the country, are equipped with the best tools available to prevent and respond to terrorist attacks.

Finally, I would like to identify one other initiative now underway in the District of Columbia that responds directly to another 9/11 Commission recommendation: The District of Columbia is building a state-of-the-art public safety and homeland defense communications center. Our Unified Communications Center (UCC) is a 127,000-square-foot building on the East Campus of St. Elizabeths Hospital where the District of Columbia will consolidate the emergency communications functions of all first-responder agencies – police, fire, and emergency management – as well as the District Department of Transportation (DDOT) traffic management function. The UCC will also serve as the District's Emergency Operations Center, and the Regional Incident Communications Command and Control Center (RICCC), during major local events and local/regional emergencies. As the RICCC, the UCC will play a critical homeland defense role, facilitating and coordinating communication among local, state and federal authorities for effective and timely response to terrorist attacks and other emergencies. In addition, because it houses the District first-responder communications centers and traffic management function, the UCC will provide essential support for emergency response by District fire, police, and emergency management officers, and for traffic management of evacuations from the nation's capital. The District needs federal financial support to complete the UCC, and we would welcome your assistance in securing it.

Conclusion

As I've explained, the District of Columbia is carrying out several major initiatives designed to assure optimal communications for first responders in the National Capital Region, and the nation, and to address key recommendations of the 9/11 Commission. We respectfully request that this Committee and the entire Congress support these initiatives by:

- Helping fund the expansion of the District's broadband wireless network to the entire National Capital Region;
- Enacting legislation to provide an additional 10 MHz of 700Mhz-band spectrum for wide-area broadband wireless public safety applications;
- Accelerating 700Mhz spectrum clearing efforts; and
- Helping fund the completion of the Unified Communications Center.

I appreciate the opportunity to testify today, and I will be happy to answer any questions you may have.